

vary gland tissue could be checked for mutations, the histogenesis of these tumours may be resolved at the cytogenetical and molecular levels.

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Can gossypol be a hope for transsexual patients (male to female) before sex reassignment surgery? Just for adjusting the body to mind

Transsexualism is a sexual identity disorder distinguished by the extreme conviction of belonging to the opposite sex with a total disharmony in the original sex. Cross-sex hormonal treatment is desired by such patients to live as a member of their identified gender [1]. Endocrine treatment provides some relief from dichotomy between body habitus and gender. There are some medical risks of sex steroids. In that case, medical providers are faced with the difficult dilemma of balancing medical risks and the psychological needs of patients.

Hormonal treatment has two aims: (1) to reduce the hormonally induced secondary sex characteristics of the original sex and (2) to induce the secondary sex characteristics of the new sex.

Estrogen is the cornerstone for feminization of male to female (MTF) transsexual people. As cross-sex hormone therapy, estrogen is two to three times as high as the recommended doses for hormone replacement therapy in postmenopausal women [1]. Concurrent administration of hormone modulators may potentiate the effects of estrogen. Antiandrogen is theorized to lower serum levels of testosterone, thereby decreasing masculine secondary sex characteristics. Several studies reported lowering of testosterone with cyproterone acetate. This can be particularly helpful in patients with comorbidities that prohibit high levels of estrogen.

Adverse effects of sex steroid therapy are apparent. There is 20-fold increase in venous thrombosis [2]. Another common phenomenon is an increase in prolactin levels [3]. Depression is increased in comparison to general population [4]. Considering contraindications and potential complications, each patient must be selected

carefully. The endocrinological follow-up is essential and necessary.

There is risk of hormone-related malignancy in transsexuals receiving treatment with cross-sex hormones [5]. There are two reports of MTF transsexuals who developed breast carcinomas while receiving estrogen treatment [6]. Several cases of lactotroph adenoma (prolactinoma) following high dose estrogen administration have been reported in patients with normal prolactin secretion before therapy [7]. Three cases of prostate cancer in MTF taking estrogen have been reported [8,9].

Gossypol is a natural polyphenolic, lipid soluble compound extracted from cotton plant (*Gossypium species*). Recently, it was identified as a toxin when used as an animal feed and has long been recognized as a contraceptive agent in rural areas of China with negligible toxicity profile. Later, it was discovered as potent inhibitor of Bcl-2 protein in particularly prostate cancer, regarding as a new hope for treatment of hormone independent prostate cancer [10]. In the nature, gossypol occurs in two enantiomeric forms, and (–)/(–) form of gossypol is more potent than racemic [(+)/(–) form of gossypol] form by means of antifertile action [11].

Gossypol inhibits steroidogenesis in bovine luteal cells and may have clinical application in steroid synthesis [12]. The inhibitory effect of gossypol on particularly androgen synthesis has already made gossypol a potential new drug for metastatic prostate cancer. The exact mechanism of gossypol as an inhibitor of androgen synthesis is not yet clear. However, a very recent study by Hu et al. had already demonstrated that both racemic and (–)/(–) form of gossypol potentially inhibit 3 β -hydroxysteroid dehydrogenase (3 β -HSD) and 17 β -hydroxysteroid dehydrogenase 3 (17 β -HSD3) synthesis in human and rat testes [11].

We hypothesised here that gossypol can be a candidate for treatment of MTF transsexualism before sex reassignment surgery. High dose estrogen therapy has some adverse effects and should not be used in some situations which are thromboembolism, cerebrovascular disease as mentioned above. Therefore, gossypol can be used alone or together with low dose of estrogen in MTF transsexual patients via the inhibitory effects on 3 β -HSD and 17 β -HSD3 enzymes. Further studies related to gossypol as far as steroid biosynthesis is concerned will enlighten this issue. We suppose that gossypol can be a new therapeutic agent in treatment of transsexual patients who are living in a wrong body.

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plays a crucial role in drug action, support the earlier mechanistic hypothesis.

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Unifying electron transfer mechanism for psilocybin and psilocin

In 2005, a unifying mechanism for the psychic action and toxicity of abused drugs was proposed based on electron transfer (ET) [1]. Among the principal ET functionalities, one of the main ones is the quinone category which is usually formed as a metabolite. The abused drugs that appear to function by the quinone route include amphetamine, methamphetamine, ecstasy, morphine, heroin, phenobarbital, and aspirin. Recently, mescaline has been added to the list [2].

Psilocybin, present in certain mushrooms, is a hallucinogen belonging to the tryptamine family. It has been banned in most countries. In vivo, psilocybin is converted by dephosphorylation into the phenol psilocin which also exhibits psychedelics (hallucinogenic) properties. Studies have been carried out entailing enzymatic oxidation which provide important evidence concerning the mechanistic mode. The product from psilocin, possessing a deep blue color, is believed to contain an *o*-quinone structure [3]. A similar result was obtained in a subsequent investigation in which the product was assigned either an *o*-quinone or iminoquinone structure [4]. Psilocybin yielded a similar result in accord with facile cleavage to psilocin. *o*-Quinones display quite favorable ET properties. The data fit nicely into the prior unifying framework involving participation of ET entities in the physiological activity [1]. There has been scant attention paid to action mode at the fundamental molecular level.

Pharmacological studies were reported on receptor participation [5]. Psilocin behaves as a partial agonist at the 5-HT_{2A} serotonin receptor in the brain. It is not surprising that the effects are somewhat related to those of serotonin which possesses a closely related structure.

In conclusion, the quinoidal metabolite from enzymatic oxidation of psilocin and its capability to undergo ET which apparently

Pedicle greater omentum graft: A possible approach for reducing the incidence of urinary fistula after kidney transplantation

Greater omentum is a highly vascular, fatty tissue. Scientists are now discovering that it is an intriguing, physiologically dynamic tissue with a considerable number of researches that support its therapeutic potential. Pedicle omentum, for its strong abilities of absorption, repair and anti-infection, is usually used for in several disorders, because it is considered to provide an alternative vascular supply and play a role as reconstruction using collagen bridges and neurotropic factors. These regenerative vascular channels and repair ability of the omentum are adequate to prevent infarction as well as to improve healing of some wounds [1,2]. The reported utilization of omentum includes myocardial ischemia, spinal injury and various surgeries. Recently, pedicle omentoplasty has been advocated to prevent the formation of lymphocysts and lymphedema in various surgeries [3–6].

Ureteroneocystostomy and ureteroureterostomy are the two main reimplantation techniques for rebuilding the urinary tract of kidney transplantations; however, the postoperative urinary fistula remains the most frequent urologic complication within the first month (with the incidence 1.9–10.0%), and may result in graft loss or even mortality [7,8]. With regards to the treatment of urinary fistula, early open surgery is a major approach in most centres, however, the high failure rate remains the intractable issue and nephrectomy is usually unavoidable. As is known that urinary fistula after kidney transplantation is mostly caused by ureteral ischemia due to errors in operative technique, so most surgeons try to improve the operation techniques to prevent and treat fistulas. However, are there other methods to reduce the incidence of fistula after transplantation?

No one attempted to use pedicle greater omentum graft as soon as the ureteroneocystostomy or ureteroureterostomy was fin-